



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY, FLORIDA
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Sol-A-Trol Aluminum Products, Inc.

4101 NW 132nd Street

Opa Locka, FL 33054

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/ or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series Unclipped Aluminum Zero, Custom & Tube Mullion – L.M.I.

APPROVAL DOCUMENT: Drawing No. M08-04, titled "Unclipped Alum Zero & Tube Mullion", sheets 1 through 10 of 10, dated 09/05/08, with revision "C" dated 02/13/13, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P. E., bearing the Miami-Dade County Product Control Section Revision stamp with the Notice of Acceptance number and Expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 10-0511.05 and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

The submitted documentation was reviewed by **Jaime D. Gascon, P. E.**



J. Gascon
5/2/13

NOA No. 13-0206.09

Expiration Date: October 13, 2015

Approval Date: May 09, 2013

Page 1


NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under previous NOA No. 09-1228.06)
2. Drawing No. **W08-04**, Sheets 1 through 10 of 10, titled "Unclipped Alum Zero & Tube Mullion", dated 09/05/08, with revision "**C**" dated 02/13/13, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P. E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Forced Entry Test, per FBC 2411.3.2.1 (b) and TAS 202-94
along with marked-up drawings and installation diagram of mulled aluminum fixed/casement window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2205A**, dated 11/10/08, signed and sealed by Candido F. Font, P. E.
(Submitted under previous NOA No. 09-0518.06)
2. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
along with marked-up drawings and installation diagram of aluminum projected-in window, prepared by Hurricane Engineering & Testing Inc., Test Reports No.'s **HETI-07-4217, HETI-07-4240, HETI-07-4241, HETI-07-4389, HETI-08-2234, HETI-08-2205A** and **HETI-08-2153A**, dated 10/08/07, all signed and sealed by Candido F. Font, P. E.
(Submitted under previous NOA No. 09-1228.06)
3. Test reports on: 1) Large Missile Impact Test, per FBC, TAS 202-94
2) Cyclic Wind Pressure Loading per FBC, TAS 202-94
along with marked-up drawings and installation diagram of mulled aluminum projected-in window, prepared by Hurricane Engineering & Testing Inc., Test Reports No.'s **HETI-07-4218, HETI-07-4299, HETI-07-4220, HETI-08-2205B** and **HETI-08-2206**, dated 10/08/07, 07/25/08, and 11/10/08, all signed and sealed by Candido F. Font, P. E.
(Submitted under previous NOA's No.'s 09-1228.06 and 09-0518.06)
4. Test reports on: 1) Large Missile Impact Test, per FBC, TAS 202-94
2) Cyclic Wind Pressure Loading per FBC, TAS 202-94
along with marked-up drawings and installation diagram of mulled aluminum fixed/casement window, prepared by Hurricane Engineering & Testing Inc., Test Report's No.'s **HETI-04-1918A, HETI-04-1918B, HETI-04-1918C, HETI-04-1918D** and **HETI-04-1918E**, all dated 09/28/04, revised on 03/16/05, all signed and sealed by Ivonne Ghia, P. E.
(Submitted under previous NOA No. 05-0414.01)


Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 13-0206.09
Expiration Date: October 13, 2015
Approval Date: May 09, 2013

Sol-A-Trol Aluminum Products, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

5. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Forced Entry Test, per FBC 2411.3.2.1 (b) and TAS 202-94
along with marked-up drawings and installation diagram of mulled aluminum fixed/casement window, prepared by Hurricane Engineering & Testing, Inc., Test Report's No.'s **HETI-04-1409** and **HETI-04-1410**, both dated 09/28/04, revised on 03/16/05, both signed and sealed by Ivonne Ghia, P. E.
(Submitted under previous NOA No. 05-0414.01)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC, prepared by Al-Farooq Corporation, dated 11/30/09, signed and sealed by Javad Ahmad, P. E.
2. **Glazing complies with ASTM E1300-04**

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of no financial interest, conformance and complying with **FBC-2010**, issued by Al-Farooq Corporation, dated 07/19/13, signed and sealed by Javad Ahmad, P. E.
2. Department of State Certification of **Sol-A-Trol Aluminum Products, Inc.** as a for profit corporation, active and organized under the laws of the State of Florida, dated 12/28/06 and signed by Kurt S. Browning, Secretary of State.
(Submitted under previous NOA No. 09-0518.06)
3. Laboratory compliance letter for Test Reports No.'s **HETI-08-2089A**, **HETI-07-4217**, **HETI-07-4240**, **HETI-07-4241**, **HETI-07-4389**, **HETI-08-2234**, **HETI-07-4218**, **HETI-07-4299**, **HETI-07-4220**, **HETI-08-2206**, **HETI-08-2205A**, **HETI-08-2205A**, **HETI-08-2205B** and **HETI-08-2153A**, prepared by Hurricane Engineering & Testing, Inc., all dated 10/08/07, 07/25/08, and 11/10/08, all signed and sealed by Candido F. Font, P. E.
(Submitted under previous NOA's No.'s 09-1228.06 and 09-0518.06)



Jaime D. Gascon, P. E.
Product Control Section Supervisor
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Sol-A-Trol Aluminum Products, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

F. STATEMENTS (CONTINUED)

4. Laboratory compliance letter for Test Reports No.'s **HETI-04-1409, HETI-04-1918A, HETI-04-1918B, HETI-04-1918C, HETI-04-1918D, HETI-04-1918E** and **HETI-04-1410**, prepared by Hurricane Engineering & Testing Inc., all dated 09/28/04, revised on 03/16/05, all signed and sealed by Ivonne Ghia, P. E.
(Submitted under previous NOA No. 05-0414.01))

G. OTHERS

1. Notice of Acceptance No. **10-0511.05**, issued to Sol-A-Trol Aluminum Products, Inc. for their Series "**Unclipped Aluminum Zero, Custom & Tube Mullion - L.M.I.**", approved on 10/13/10 and expiring on 10/13/15.



Jaime D. Gascon, P. E.
Product Control Section Supervisor
NOA No. 13-0206.09
Expiration Date: October 13, 2015
Approval Date: May 09, 2013

UNCLIPPED ALUMINUM MULLION
WINDOW FRAME MEMBER INCLUDED IN PROPERTIES

ZERO MULLION (ARSO-168) TO BE USED WITH SERIES 3000/3062
FIXED, CASEMENT AND PROJECTED WINDOWS
MULLION (ARSO-6) TO BE USED WITH SERIES 540
FIXED, SINGLE HUNG AND PROJECTED WINDOWS.
FOR WINDOWS IMPACT AND LOAD RATINGS SEE
CORRESPONDING NOA'S.
LOWER DESIGN PRESSURE FROM WINDOW APPROVALS
OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.

NOTES:

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE
REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY
HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE
APPLICABLE BUILDING CODE REQUIREMENTS I.E: WIND LOAD, WATER
INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER
LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, EMBEDMENT
TO BASE MATERIAL SHALL BE BEYOND WALL COVERING (STUCCO, TILE ETC.).

ANCHORING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS
ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IN ALLOWABLE STRESS IS USED IN DESIGN OF
ANCHORS INTO WOOD ONLY.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO
CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS
OF THE FLORIDA BLDG. CODE SECTION 2003.8.4.

THESE MULLIONS ARE RATED FOR LARGE & SMALL MISSILE IMPACT

NOTE: MULLIONS MAY BE USED TO ATTACH 2 OR MORE WINDOWS TOGETHER

SHEET NO.	INDEX OF DRAWING
	DESCRIPTION
1	GENERAL NOTES, INSTRUCTIONS AND INDEX OF DRAWINGS
2	PARTS DRAWING
3	DESIGN LOAD CAPACITY TABLE ARSO-168 ZERO MULLION WITH SERIES 3000/3062 FRAMES
4	DESIGN LOAD CAPACITY TABLE 1 X 4 X 1/8" ALUM TUBE MULLION WITH SERIES 3000/3062 FRAMES
5	DESIGN LOAD CAPACITY TABLE 1 X 4 X 1/8" ALUM TUBE MULLION WITH SERIES 535 FRAMES
6	DESIGN LOAD CAPACITY TABLE ARSO-6 CUSTOM MULLION WITH SERIES 535 FRAMES
7	DESIGN LOAD CAPACITY TABLE ARSO-6 CUSTOM MULLION WITH SERIES 540 FRAMES
8	ANCHORING DETAILS FOR ARSO-168 MULLION AND SERIES 3000/3062 FRAMES
9	ANCHORING DETAILS FOR 1 X 4 X 1/8" TUBE MULLION AND SERIES 535 FRAMES
10	ANCHORING DETAILS FOR ARSO-6 CUSTOM MULLION AND SERIES 540 FRAMES

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

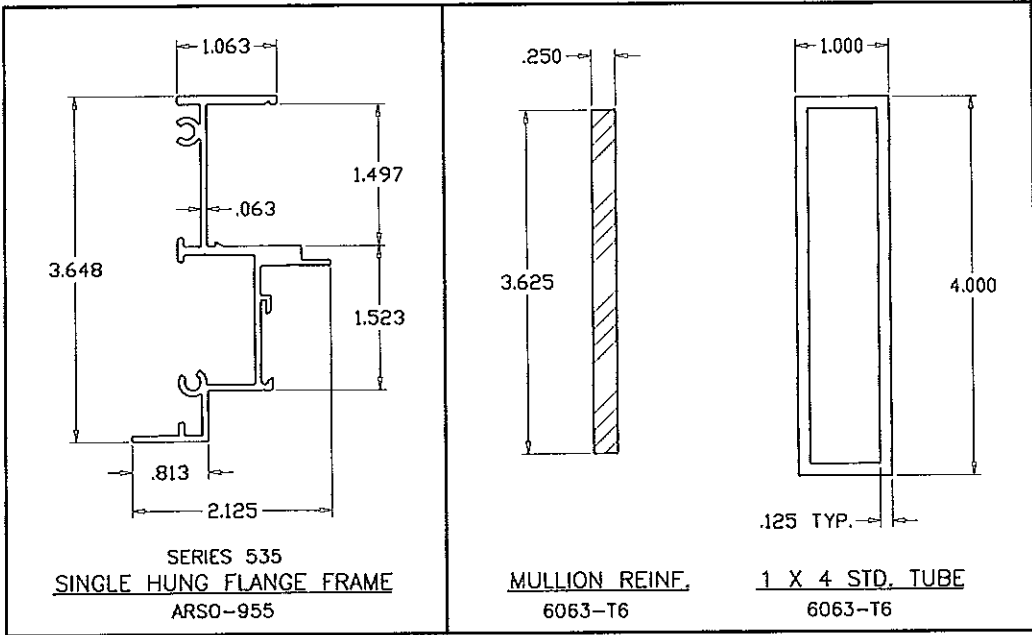
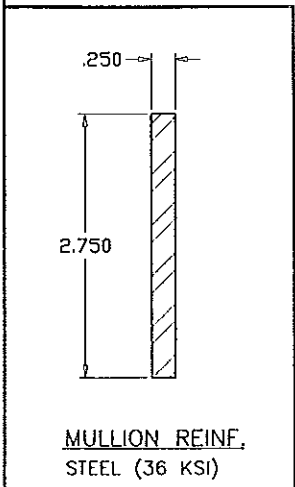
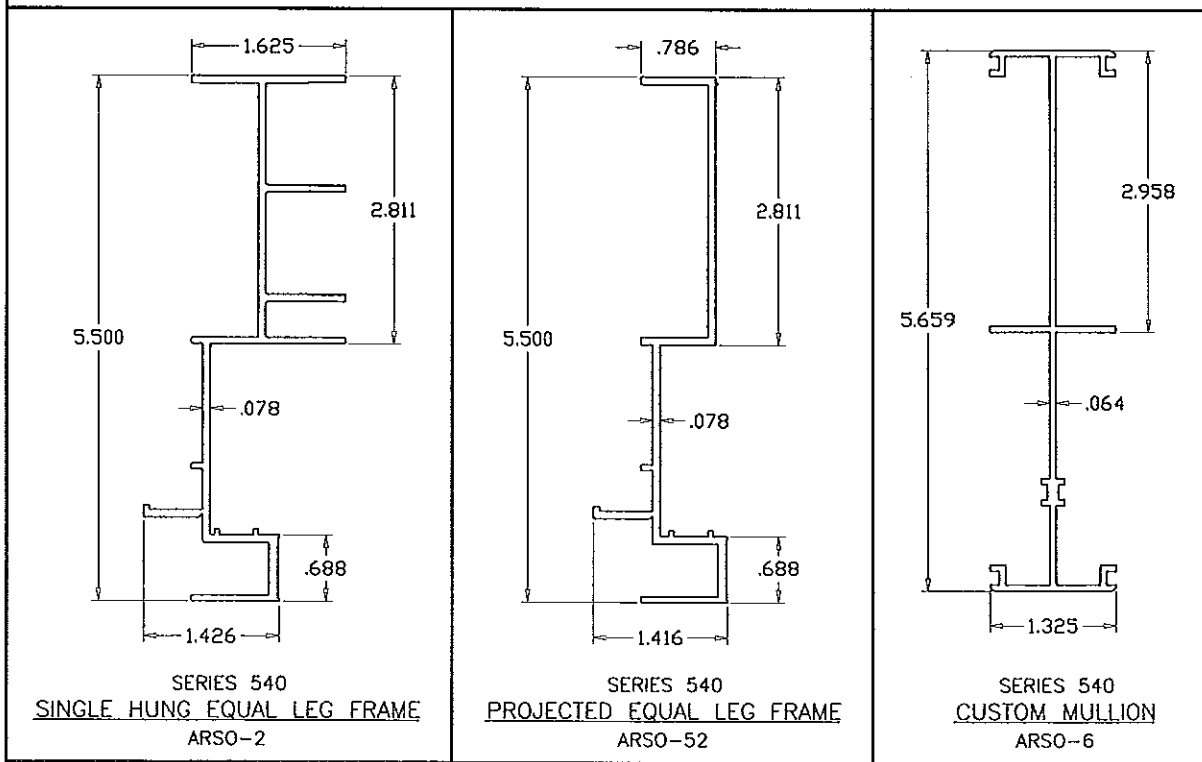
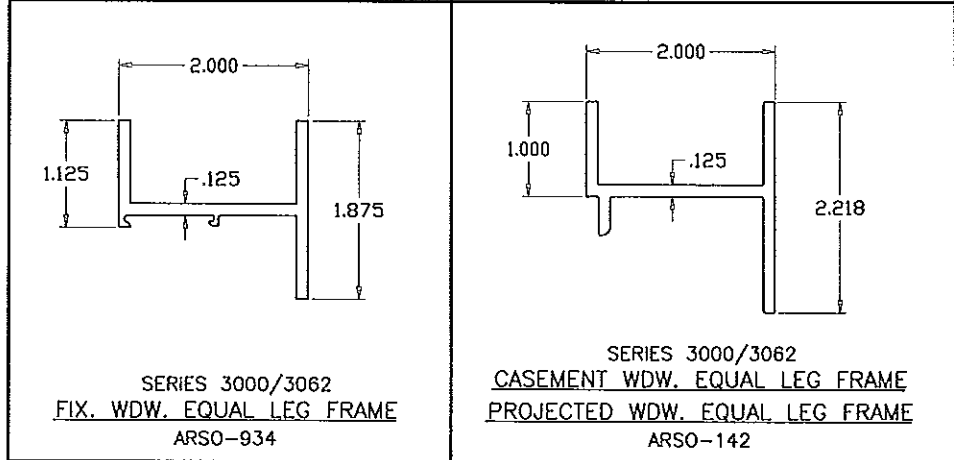
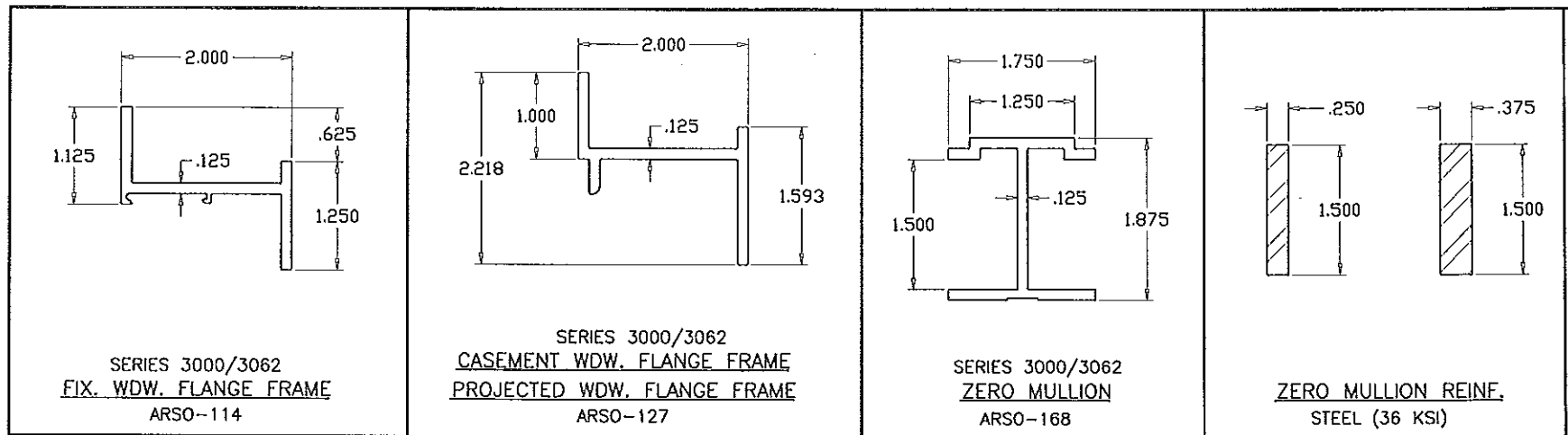
- STEP 1** DETERMINE DESIGN LOAD REQUIRED PER ASCE 7
FOR PARTICULAR OPENING.
- STEP 2** USE CONNECTION OF WINDOWS TO MULLION AS PER
PRODUCT APPROVAL.
- STEP 3** USING CHARTS ON SHEETS 3 THRU 7 SELECT MULLION TYPE
AND ANCHOR QUANTITIES WITH DESIGN RATING MORE THAN
THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 4** CAPACITY OF SELECTED SOLATROL'S WINDOWS AND MULLION
MUST EQUAL OR EXCEED REQUIRED LOADS.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 10/13/2015
By *[Signature]*
Miami Edge Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

FEB 20 2013

AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 1235 S.W. 87 AVE MIAMI, FLORIDA 33174 TEL. (305) 264-3100 FAX. (305) 262-6978		afC MULLION\M08-04SAT	
UNCLIPPED ALUM ZERO & TUBE MULLION		SOL-A-TROL ALUMINUM PRODUCTS 4101 N.W. 132ND STREET MIAMI, FL. 33054 TEL. (305) 681-2020 FAX. (305) 681-2035	
revisions:	no.	date	description
	A	08.13.10	REV. PER BCCO COMMENTS
	B	07.20.12	UPDATED TO 2010 FBC
	C	02.13.13	L.G. NOTE ADDED
date:	09-05-08	scale:	1/2" = 1"
dr.	by: HAMID	chk.	by:
drawing no.		M08-04	
sheet		1 of 10	



ALL FRAMES AND MULLIONS TO BE ALLOY 6063-T6

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 10/13/2015
By *[Signature]*
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
[Signature]
SEP 26 2012

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

afC
MULLION M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL. (305) 681-2020 FAX. (305) 681-2035

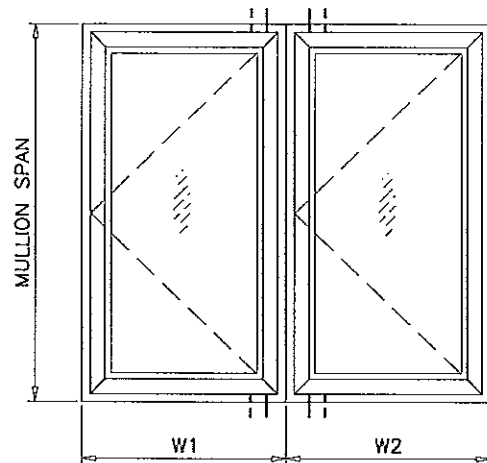
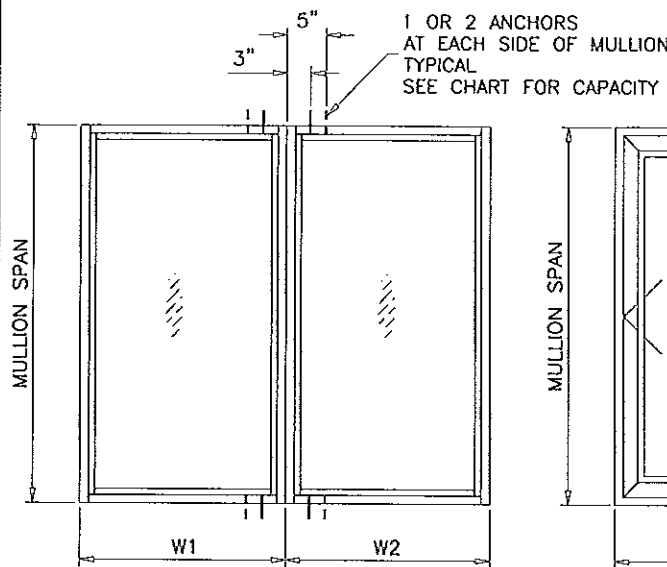
revisions:

no	date	by	description
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B	07.20.12		NO CHANGE THIS SHEET

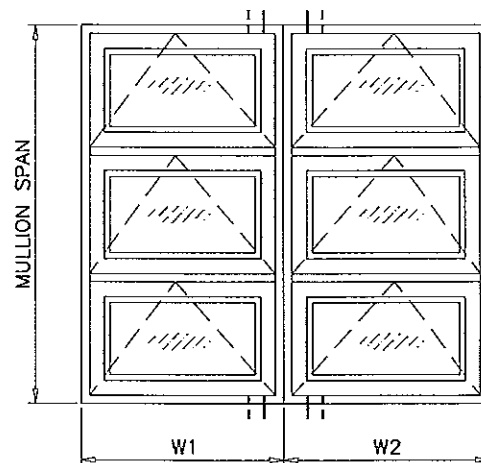
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dr. by: HAMID
chk. by:

drawing no.
M08-04

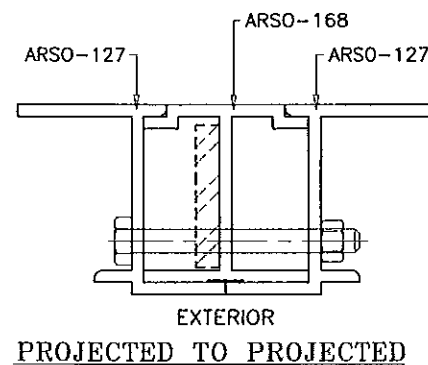
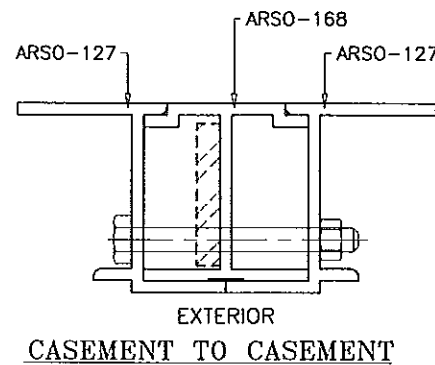
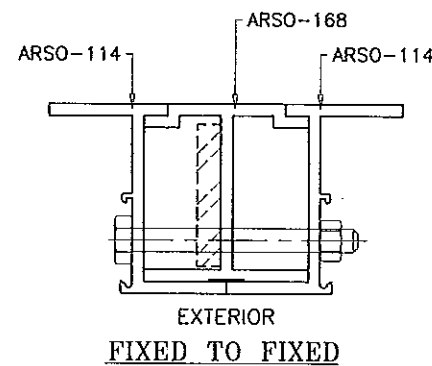
sheet 2 of 10



NOTE:
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY
OR HORIZONTALLY.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

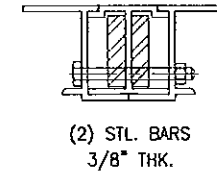
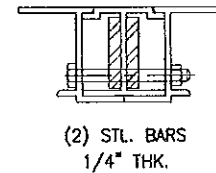
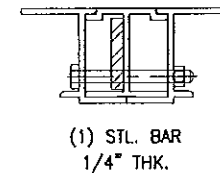
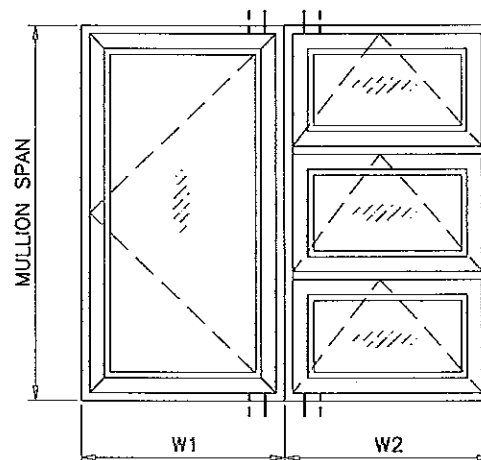
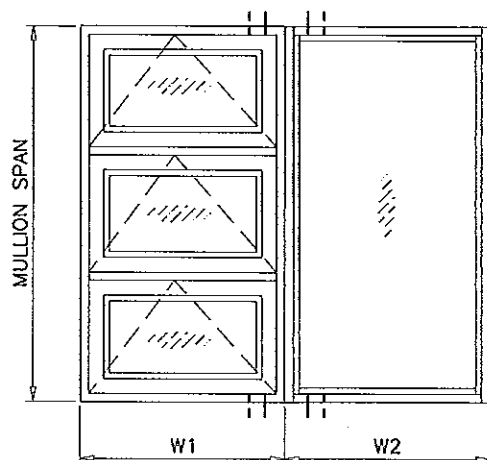
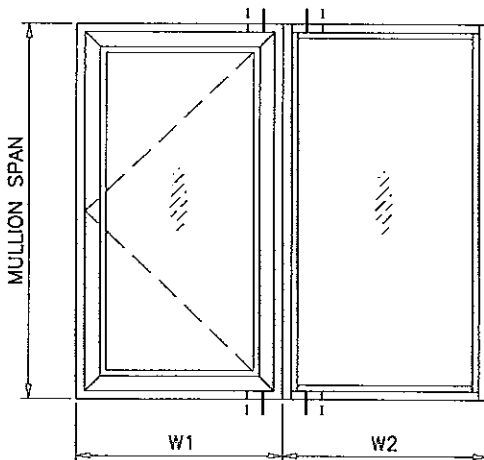


DESIGN LOAD CAPACITY - PSF ZERO MULLION WITH ANY COMBINATION OF SERIES 3000/3062 FIXED, CASEMENT OR PROJECTED WINDOWS					
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULL	2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	(1) STL. BAR 1/4" THK.	(1) STL. BAR 1/4" THK.	(2) STL. BARS 1/4" THK.	(2) STL. BARS 3/8" THK.
19-1/8"	38-3/8"	100.0	100.0	100.0	100.0
26-1/2"		100.0	100.0	100.0	100.0
37"		96.4	100.0	100.0	100.0
53-1/8"		67.1	100.0	100.0	100.0
19-1/8"	50-5/8"	100.0	100.0	100.0	100.0
26-1/2"		100.0	100.0	100.0	100.0
37"		73.1	100.0	100.0	100.0
53-1/8"		50.9	90.2	90.2	90.2
19-1/8"	63"	100.0	100.0	100.0	100.0
26-1/2"		82.0	100.0	100.0	100.0
37"		58.7	80.2	93.7	100.0
53-1/8"		45.3	61.8	72.2	80.0
24"	48"	100.0	100.0	100.0	100.0
30"		95.0	100.0	100.0	100.0
36"		79.2	100.0	100.0	100.0
42"		67.9	100.0	100.0	100.0
48"		59.4	100.0	100.0	100.0
24"	54"	100.0	100.0	100.0	100.0
30"		84.5	100.0	100.0	100.0
36"		70.4	100.0	100.0	100.0
42"		60.3	100.0	100.0	100.0
48"		52.8	93.6	93.6	93.6
24"	60"	95.0	100.0	100.0	100.0
30"		76.0	100.0	100.0	100.0
36"		63.4	95.4	100.0	100.0
42"		54.3	81.8	95.6	96.3
48"		47.5	71.5	80.0	80.0
24"	63"	90.5	100.0	100.0	100.0
30"		72.4	98.9	100.0	100.0
36"		60.3	82.4	96.3	100.0
42"		51.7	70.6	82.6	91.7
48"		45.3	61.8	72.2	80.0



SEE SHEET 8 OF 10 FOR ANCHORING DETAILS

$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



	Ix IN ⁴	Sx IN ³
ALUMINUM	1.0033	0.9679
STEEL	0.0703	0.0937
TOTAL Ix ALUM + Ix STL X 2.9	1.2072	

	Ix IN ⁴	Sx IN ³
ALUMINUM	1.0033	0.9679
STEEL	0.1406	0.1874
TOTAL Ix ALUM + Ix STL X 2.9	1.4110	

	Ix IN ⁴	Sx IN ³
ALUMINUM	1.0033	0.9679
STEEL	0.2110	0.2814
TOTAL Ix ALUM + Ix STL X 2.9	1.6152	

ZERO MULLION
SERIES 3000/3062 FRAMES

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

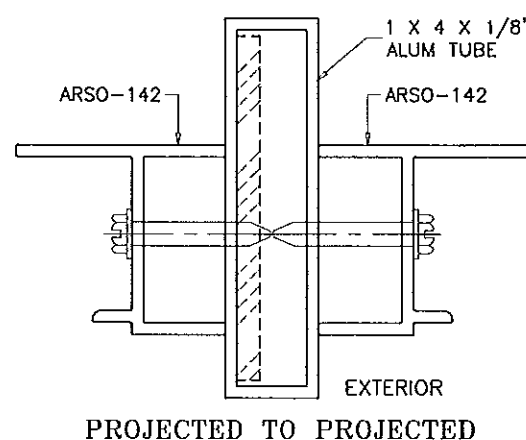
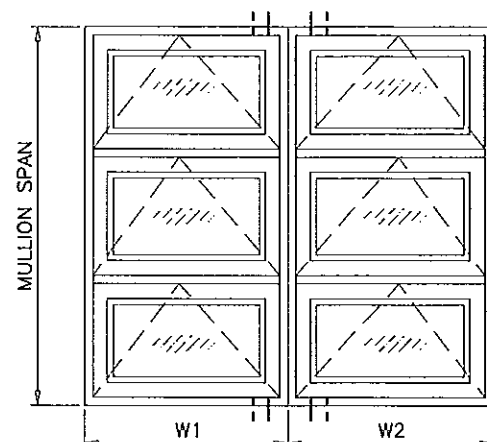
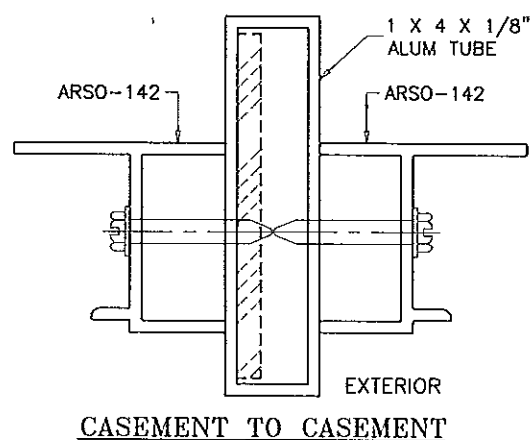
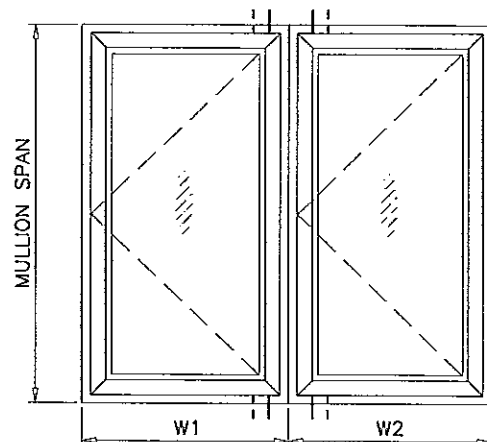
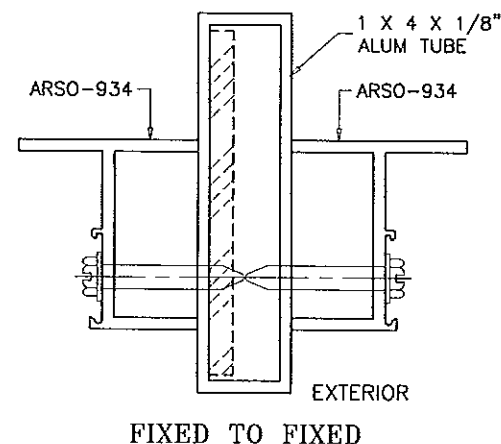
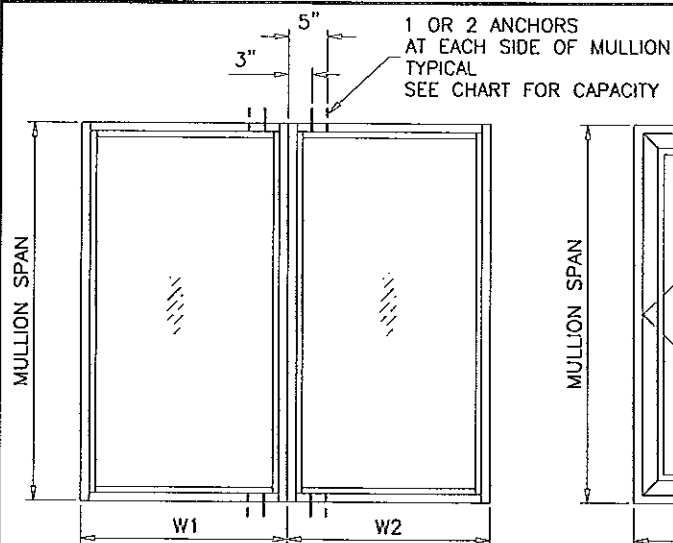
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 06/13/2015
By *[Signature]*
Miami Dade Product Control

SEP 26 2012

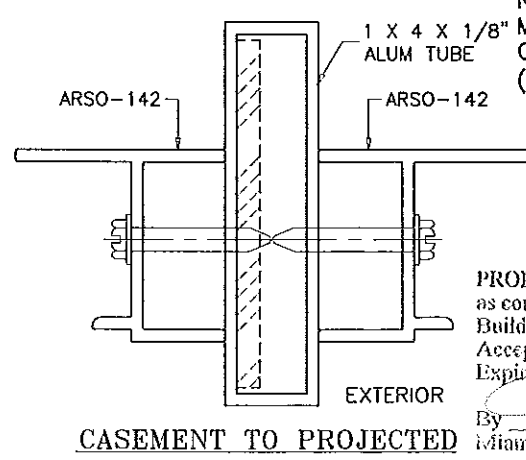
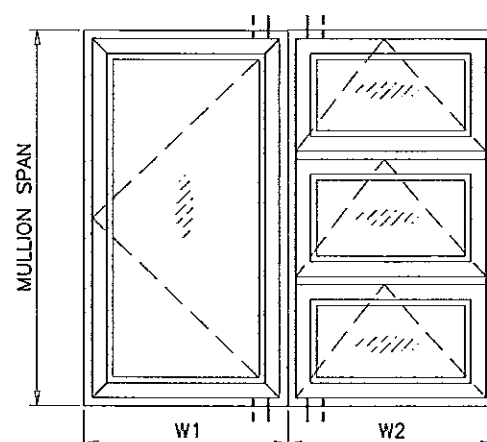
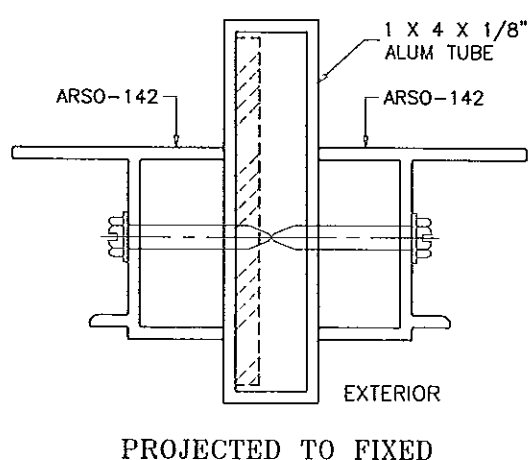
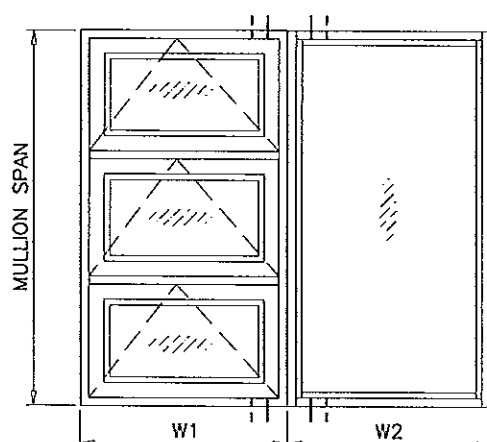
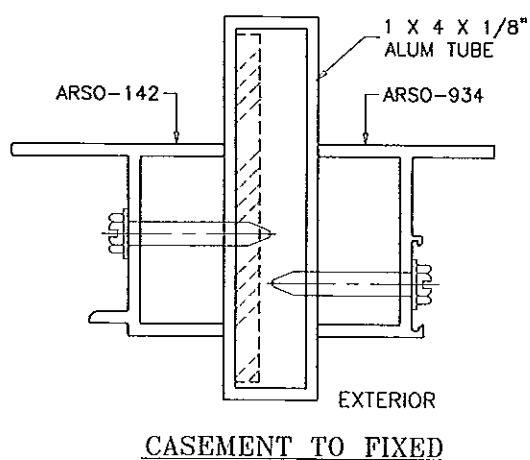
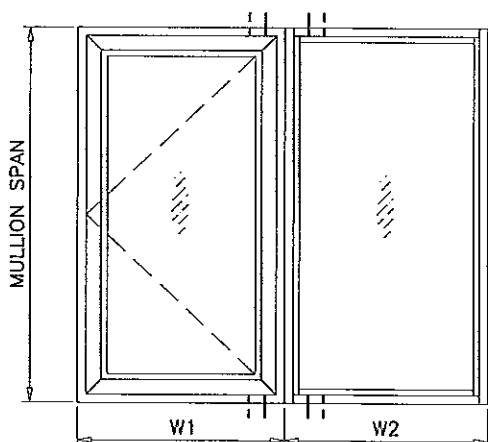
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
MULLION M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION
SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL. (305) 681-2020 FAX. (305) 681-2035

revisions:	no.	date	by	description
	A	09.13.10		REV. PER BCCO COMMENTS
	B	07.20.12		NO CHANGE THIS SHEET
date:	09-05-08			
scale:	1/2" = 1"			
dr. by:	HAMID			
chk. by:				
drawing no.	M08-04			
sheet	3 of 10			

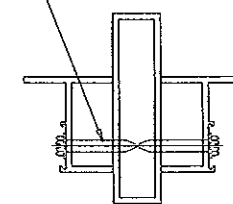


SEE SHEET 9 OF 10 FOR ANCHORING DETAILS



DESIGN LOAD CAPACITY - PSF				
TUBE MULLION WITH ANY COMBINATION OF S-3000/3062 FIXED, CASEMENT OR PROJECTED WDW.				
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULL	2 ANCHORS AT EACH SIDE OF MULLION	
WIDTH (W)	MULL. SPAN	MULLION W/O REINF.	MULLION W/O REINF.	MULLION W/ REINF.
19-1/8"	38-3/8"	95.0	95.0	95.0
26-1/2"		95.0	95.0	95.0
37"		95.0	95.0	95.0
53-1/8"		67.1	95.0	95.0
19-1/8"	50-5/8"	95.0	95.0	95.0
26-1/2"		95.0	95.0	95.0
37"		73.1	95.0	95.0
53-1/8"		50.9	95.0	95.0
19-1/8"	63"	95.0	95.0	95.0
26-1/2"		82.0	95.0	95.0
37"		58.7	95.0	95.0
53-1/8"		49.8	94.4	94.4
19-1/8"	74-1/4"	95.0	95.0	95.0
26-1/2"		69.6	95.0	95.0
37"		49.8	94.4	94.4
53-1/8"		49.8	94.4	94.4
24"	54"	95.0	95.0	95.0
30"		84.5	95.0	95.0
36"		70.4	95.0	95.0
42"		60.3	95.0	95.0
48"	60"	52.8	95.0	95.0
54"		46.9	93.9	93.9
24"		95.0	95.0	95.0
30"		76.0	95.0	95.0
36"	66"	63.4	95.0	95.0
42"		54.3	95.0	95.0
48"		47.5	95.0	95.0
24"		86.4	95.0	95.0
30"	72"	69.1	95.0	95.0
36"		57.6	95.0	95.0
42"		49.4	95.0	95.0
48"		79.2	95.0	95.0
24"	78"	63.4	95.0	95.0
30"		52.8	95.0	95.0
36"		45.3	88.8	90.5
42"		73.1	95.0	95.0
24"	84"	58.5	95.0	95.0
30"		48.7	86.6	95.0
36"		67.9	95.0	95.0
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48"	84"	45.3	69.3	90.5
54"		45.3	69.3	90.5

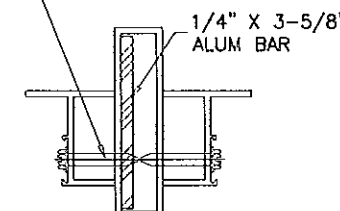
ALTERNATE THRU BOLT WITH NUT AND WASHER



MULLION W/O REINF.

1x IN ⁴	5x IN ³
2.7772	1.3886

ALTERNATE THRU BOLT WITH NUT AND WASHER



MULLION W/ REINF.

1x IN ⁴	5x IN ³
3.3995	1.6998

$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

NOTE: MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY. (INTERPOLATION BETWEEN WIDTHS ALLOWED)

TUBE MULLION SERIES 3000/3062 FRAMES

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206-09
Expiration Date 10/13/2015
By [Signature]
Miami Dade Product Control

SEP 26 2012

afC
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 262-6975 FAX. (305) 262-8100

UNCLIPPED ALUM ZERO & TUBE MULLION
SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL. (305) 681-2020 FAX. (305) 681-2035

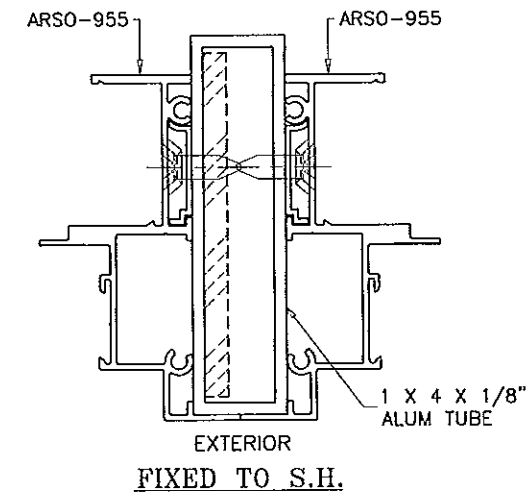
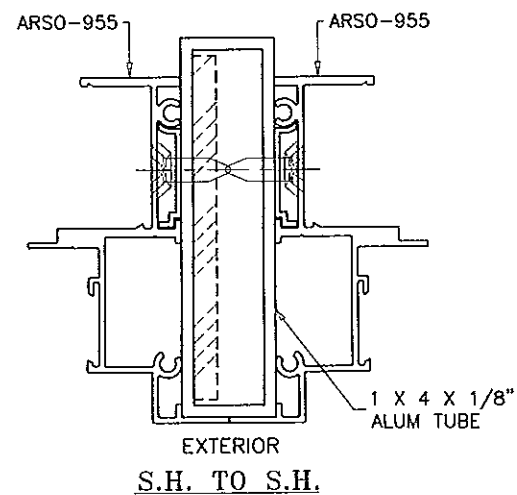
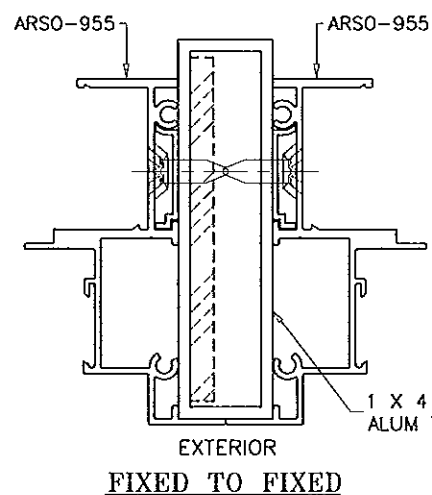
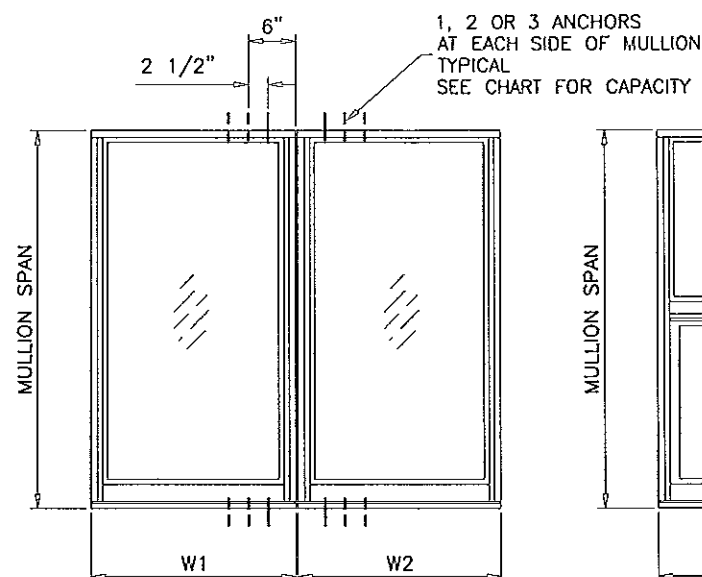
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	A	09.13.10	REV. PER BCCO COMMENTS
	B	07.20.12	NO CHANGE THIS SHEET

date: 09-05-08
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
M08-04

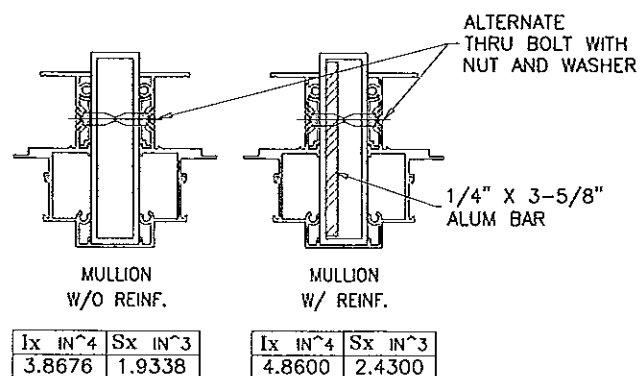
sheet 4 of 10

DESIGN LOAD CAPACITY - PSF TUBE MULLION WITH ANY COMBINATION OF SERIES 535 FIXED AND SINGLE HUNG WINDOWS						
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULL	2 ANCHORS AT EACH SIDE OF MULLION		3 ANCHORS AT EACH SIDE OF MULLION	
WIDTH (W)	MULL SPAN	MULLION W/O REINF.	MULLION W/O REINF.	MULLION W/ REINF.	MULLION W/O REINF.	MULLION W/ REINF.
19-1/8"	50-5/8"	100.0	100.0	100.0	100.0	100.0
26-1/2"		100.0	100.0	100.0	100.0	100.0
37"		73.1	100.0	100.0	100.0	100.0
53-1/8"		50.9	100.0	100.0	100.0	100.0
19-1/8"	63"	100.0	100.0	100.0	100.0	100.0
26-1/2"		82.0	100.0	100.0	100.0	100.0
37"		58.7	100.0	100.0	100.0	100.0
53-1/8"		40.9	81.8	81.8	100.0	100.0
19-1/8"	74-1/4"	96.4	100.0	100.0	100.0	100.0
26-1/2"		69.6	100.0	100.0	100.0	100.0
37"		49.8	99.6	99.6	100.0	100.0
53-1/8"		34.7	69.4	69.4	95.5	100.0
24"	66"	86.4	100.0	100.0	100.0	100.0
30"		69.1	100.0	100.0	100.0	100.0
36"		57.6	100.0	100.0	100.0	100.0
42"		49.4	98.7	98.7	100.0	100.0
48"		43.2	86.4	86.4	100.0	100.0
53-1/8"		39.0	78.1	78.1	100.0	100.0
54"		38.4	76.8	76.8	100.0	100.0
60"	72"	34.6	69.1	69.1	100.0	100.0
24"		79.2	100.0	100.0	100.0	100.0
30"		63.4	100.0	100.0	100.0	100.0
36"		52.8	100.0	100.0	100.0	100.0
42"		45.3	90.5	90.5	100.0	100.0
48"		39.6	79.2	79.2	100.0	100.0
53-1/8"		35.8	71.6	71.6	100.0	100.0
54"	78"	35.2	70.4	70.4	100.0	100.0
24"		73.1	100.0	100.0	100.0	100.0
30"		58.5	100.0	100.0	100.0	100.0
36"		48.7	97.5	97.5	100.0	100.0
42"		41.8	83.6	83.6	100.0	100.0
48"		36.6	73.1	73.1	91.2	100.0
53-1/8"		33.0	66.1	66.1	82.4	99.1
54"	80"	32.5	65.0	65.0	81.0	97.5
24"		71.3	100.0	100.0	100.0	100.0
30"		57.0	100.0	100.0	100.0	100.0
36"		47.5	95.0	95.0	100.0	100.0
42"		40.7	81.5	81.5	96.6	100.0
48"		35.6	71.3	71.3	84.5	100.0
53-1/8"		32.2	64.4	64.4	76.4	96.6



SEE SHEET 9 OF 10 FOR ANCHORING DETAILS

$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 10/13/2015
By *[Signature]*
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538
[Signature]
SEP 26 2012

NOTE:
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY
OR HORIZONTALLY.
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 264-8100 FAX (305) 262-6978
MULLION M08-04 SAT

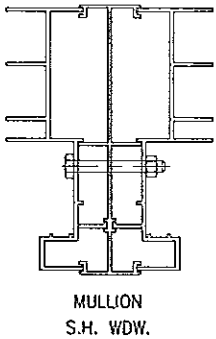
UNCLIPPED ALUM ZERO & TUBE MULLION
SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL (305) 681-2020 FAX (305) 681-2035

no	date	by	description
A	09.13.10		REV. PER BCCO COMMENTS
B	07.20.12		NO CHANGE THIS SHEET

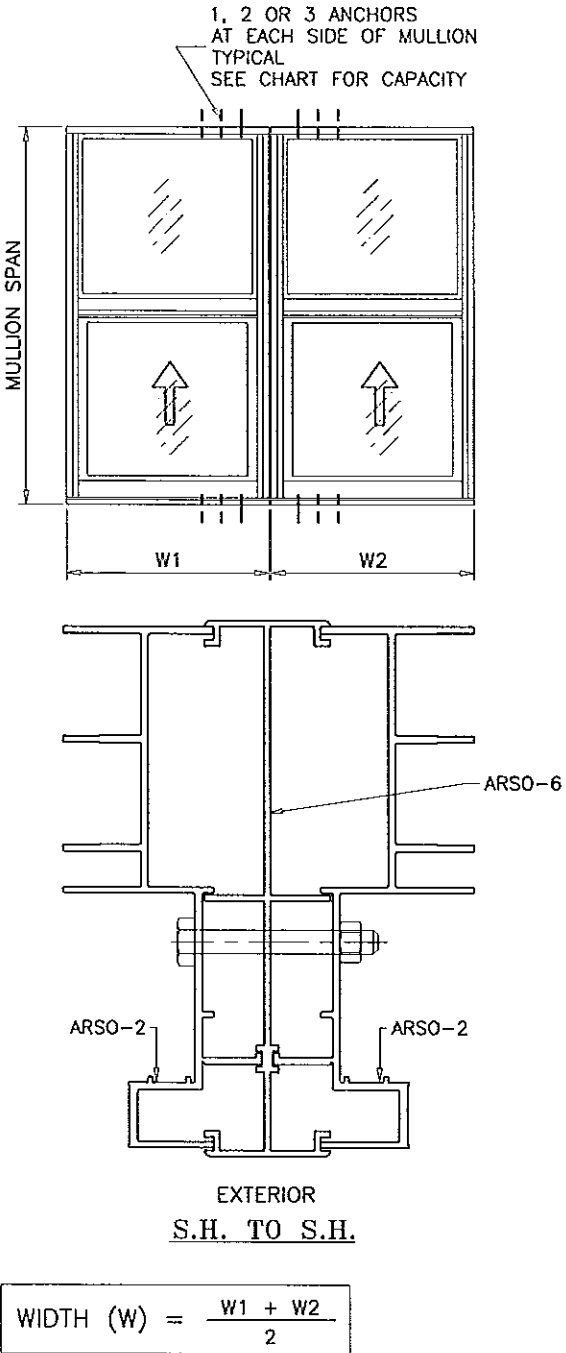
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scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
M08-04
sheet 5 of 10

DESIGN LOAD CAPACITY - PSF CUSTOM MULLION W/O REINF. SERIES 540 S.H. WINDOWS				
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION	2 ANCHORS AT EACH SIDE OF MULLION	3 ANCHORS AT EACH SIDE OF MULLION
WIDTH (W)	MULL SPAN			
19-1/8"	50-5/8"	75.0	75.0	75.0
26-1/2"		75.0	75.0	75.0
37"		73.1	75.0	75.0
53-1/8"		50.9	75.0	75.0
19-1/8"	63"	75.0	75.0	75.0
26-1/2"		75.0	75.0	75.0
37"		58.7	75.0	75.0
53-1/8"		40.9	75.0	75.0
19-1/8"	74-1/4"	75.0	75.0	75.0
26-1/2"		69.6	75.0	75.0
37"		49.8	75.0	75.0
53-1/8"		34.7	69.4	75.0
24"	76"	75.0	75.0	75.0
30"		60.0	75.0	75.0
36"		50.0	75.0	75.0
42"		42.9	75.0	75.0
48"		37.5	75.0	75.0
54"		33.3	66.7	75.0
60"		30.0	60.0	75.0
24"	84"	67.9	75.0	75.0
30"		54.3	75.0	75.0
36"		45.3	75.0	75.0
42"		38.8	75.0	75.0
48"		33.9	67.9	75.0
54"		30.2	60.3	75.0
24"	90"	63.4	75.0	75.0
30"		50.7	75.0	75.0
36"		42.2	75.0	75.0
42"		36.2	72.4	75.0
48"		31.7	63.4	75.0
24"	96"	59.4	75.0	75.0
30"		47.5	75.0	75.0
36"		39.6	75.0	75.0
42"		33.9	67.9	75.0
48"		29.7	59.4	75.0



Ix IN^4	Sx IN^3
8.8317	3.0129



CUSTOM MULLION SERIES 540 FRAMES

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 10/13/2015
By *[Signature]*
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

[Signature]

SEP 26 2012

SEE SHEET 10 OF 10 FOR ANCHORING DETAILS

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL (305) 262-6978 FAX (305) 262-6978

UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL (305) 681-2020 FAX (305) 681-2035

revisions:

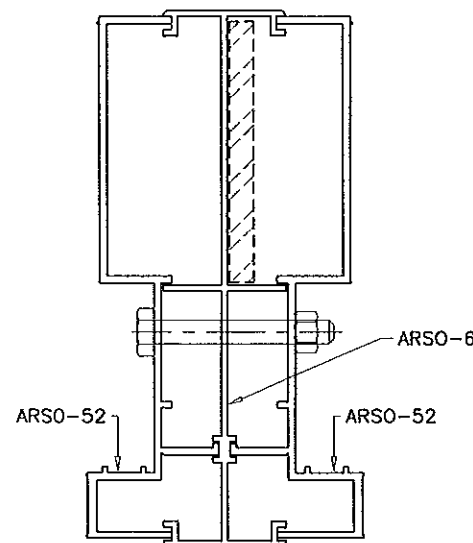
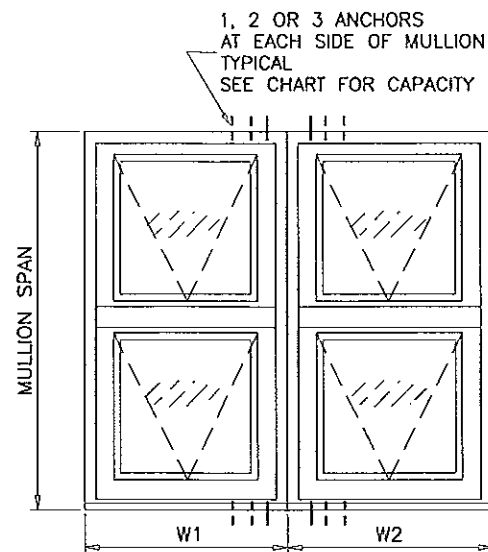
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date: 09-05-08
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

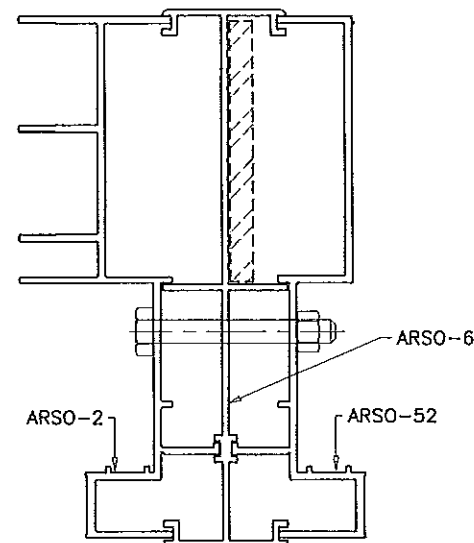
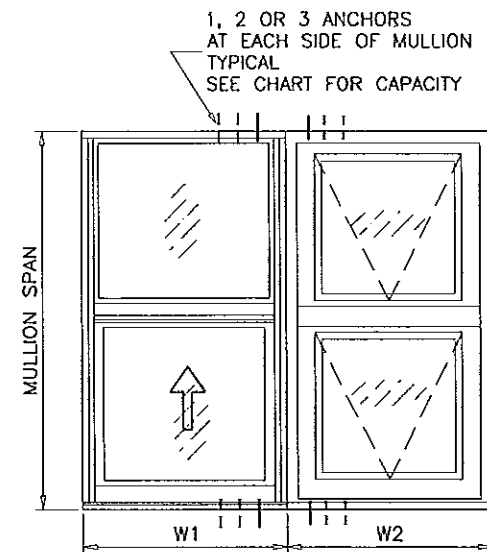
drawing no.
M08-04
sheet 6 of 10

DESIGN LOAD CAPACITY - PSF CUSTOM MULLION W/O REINF. SERIES 540 PROJECTED AND S.H. TO PROJECTED WDW.			
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION	2 ANCHORS AT EACH SIDE OF MULLION
WIDTH (W)	MULL SPAN		
19-1/8"	38-3/8"	75.0	75.0
26-1/2"		75.0	75.0
37"		75.0	75.0
53-1/8"		67.1	75.0
19-1/8"	50-5/8"	75.0	75.0
26-1/2"		75.0	75.0
37"		73.1	75.0
53-1/8"		50.9	75.0
19-1/8"	63"	75.0	75.0
26-1/2"		75.0	75.0
37"		58.7	75.0
53-1/8"		50.9	75.0
24"	48"	75.0	75.0
30"		75.0	75.0
36"		75.0	75.0
42"		67.9	75.0
48"		59.4	75.0
54"		52.8	75.0
60"		47.5	75.0
24"	54"	75.0	75.0
30"		75.0	75.0
36"		70.4	75.0
42"		60.3	75.0
48"		52.8	75.0
54"		46.9	75.0
24"	60"	75.0	75.0
30"		75.0	75.0
36"		63.4	75.0
42"		54.3	75.0
48"		47.5	75.0
54"		40.9	75.0
24"	63"	75.0	75.0
30"		72.4	75.0
36"		60.3	75.0
42"		51.7	75.0
48"		45.3	75.0
54"		38.8	75.0

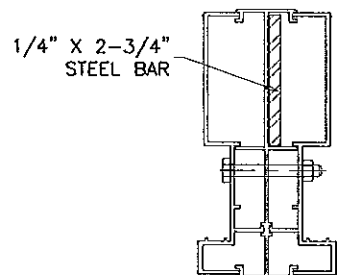
DESIGN LOAD CAPACITY - PSF CUSTOM MULLION W/ REINF. SERIES 540 PROJECTED AND S.H. TO PROJECTED WDW.				
WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION	2 ANCHORS AT EACH SIDE OF MULLION	3 ANCHORS AT EACH SIDE OF MULLION
WIDTH (W)	MULL SPAN			
19-1/8"	63"	75.0	75.0	75.0
26-1/2"		75.0	75.0	75.0
37"		58.7	75.0	75.0
53-1/8"		40.9	75.0	75.0
19-1/8"	74-1/4"	75.0	75.0	75.0
26-1/2"		69.6	75.0	75.0
37"		49.8	75.0	75.0
53-1/8"		34.7	69.4	75.0
24"	63"	75.0	75.0	75.0
30"		72.4	75.0	75.0
36"		60.3	75.0	75.0
42"		51.7	75.0	75.0
48"		45.3	75.0	75.0
54"		40.2	75.0	75.0
60"		36.2	72.4	75.0
24"	72"	75.0	75.0	75.0
30"		63.4	75.0	75.0
36"		52.8	75.0	75.0
42"		45.3	75.0	75.0
48"		39.6	75.0	75.0
54"		35.2	70.4	75.0
24"	80"	71.3	75.0	75.0
30"		57.0	75.0	75.0
36"		47.5	75.0	75.0
42"		40.7	75.0	75.0
48"		35.6	71.3	75.0
54"		31.2	67.9	75.0
24"	84"	67.9	75.0	75.0
30"		54.3	75.0	75.0
36"		45.3	75.0	75.0
42"		38.8	75.0	75.0
48"		31.2	71.3	75.0
54"		27.8	67.9	75.0



EXTERIOR
PROJECTED TO PROJECTED

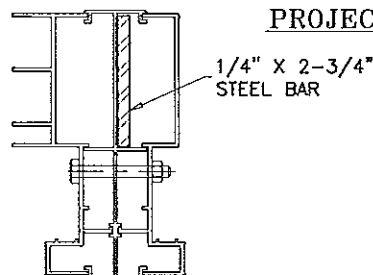


EXTERIOR
S.H. TO PROJECTED



MULLION W/ REINF.
PROJECTED

	Ix IN ⁴	Sx IN ³
ALUMINUM	7.4397	2.4092
STEEL	0.4333	0.3151
TOTAL	8.6963	
Ix ALUM + Ix STL X 2.9		



MULLION W/ REINF.
S.H. - PROJECTED

	Ix IN ⁴	Sx IN ³
ALUMINUM	8.1357	2.7845
STEEL	0.4333	0.3151
TOTAL	9.3923	
Ix ALUM + Ix STL X 2.9		

$$WIDTH (W) = \frac{W1 + W2}{2}$$

CUSTOM MULLION
SERIES 540 FRAMES

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 10/13/2015
By *[Signature]*
Miami Dade Product Control

Engr: JAVAD AHMAD
CML
FLA. PE # 70592
C.A.N. 3538

SEP 26 2012

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 262-6978 FAX. (305) 262-6978

UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL. (305) 681-2020 FAX. (305) 681-2035

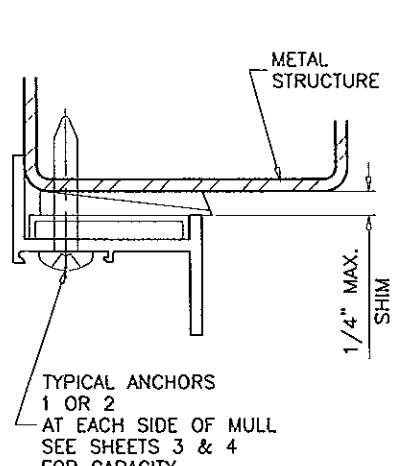
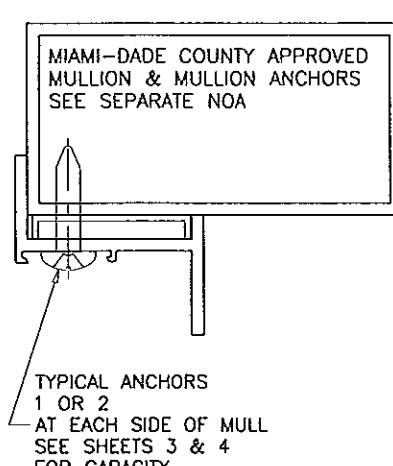
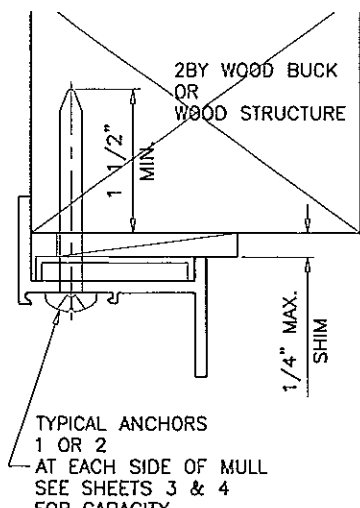
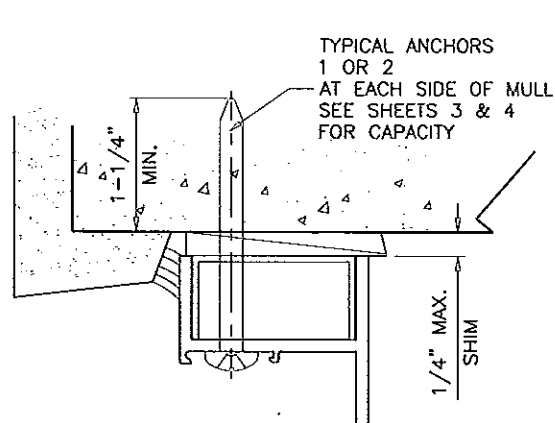
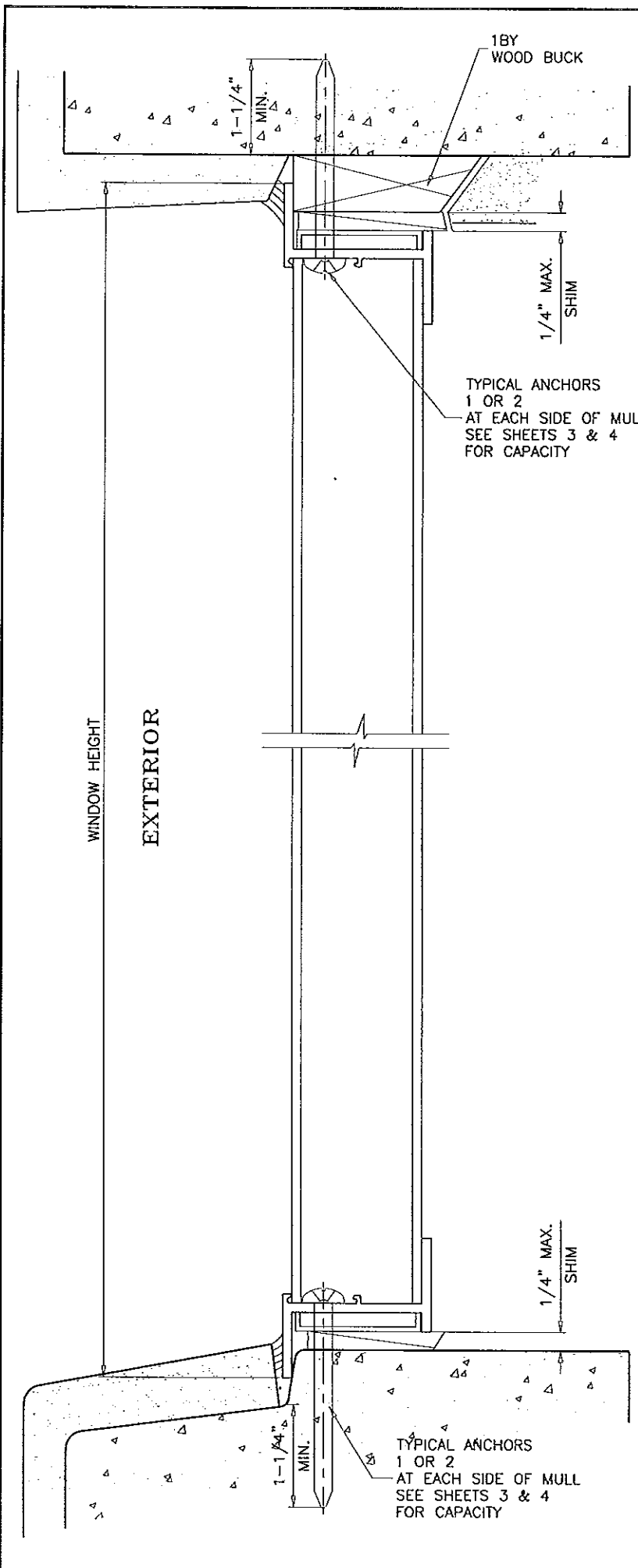
revisions:

no	date	description
A	09.13.10	REV. PER BOCO COMMENTS
B	07.20.12	NO CHANGE THIS SHEET

date: 09-05-08
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
M08-04
sheet 7 of 10

SEE SHEET 10 OF 10 FOR ANCHORING DETAILS



FLANGE AND EQUAL LEG FRAMES CAN BE USED AT ALL ANCHORAGE CONDITIONS.

WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING
 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY BUCKS INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONC. OR MASONRY
 DIRECTLY INTO CONC. OR MASONRY
 1-1/4" MIN. EMBED INTO CONC. OR MASONRY

#14 SELF DRILLING SCREWS (GRADE 5 CRS)
 INTO METAL STRUCTURES
 STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)
 ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)


TYPICAL EDGE DISTANCE
 INTO CONCRETE AND MASONRY = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
 C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 13-020609
 Expiration Date 10/13/2015
 By *[Signature]*
 Miami Dade Product Control

ZERO MULLION
 TUBE MULLION
 SERIES 3000/3062 FRAMES

Engr: JAVAD AHMAD
 CIVIL
 FLA. PE # 70592
 C.A.N. 3538
[Signature]
 SEP 26 2012



AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 1235 S.W. 87 AVE
 MIAMI, FLORIDA 33174
 TEL (305) 264-8100 FAX (305) 262-6978
 MULLION\M08-04SAT

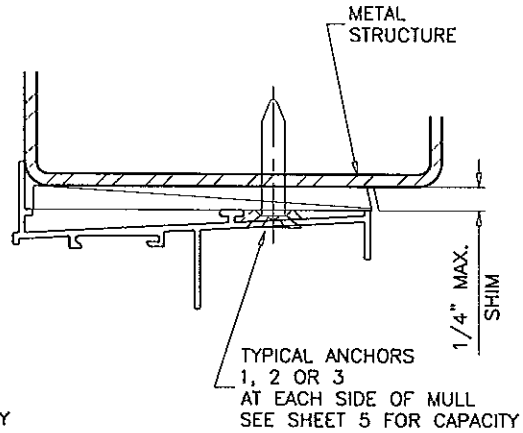
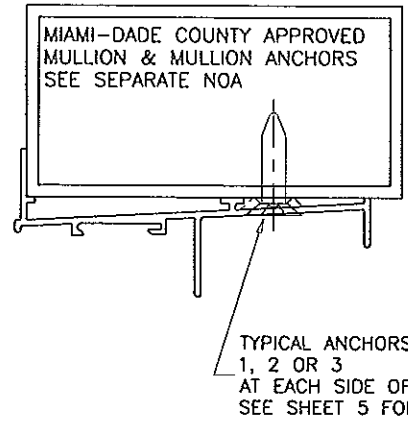
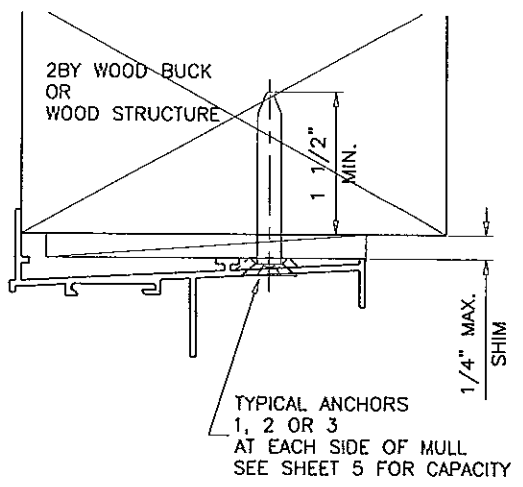
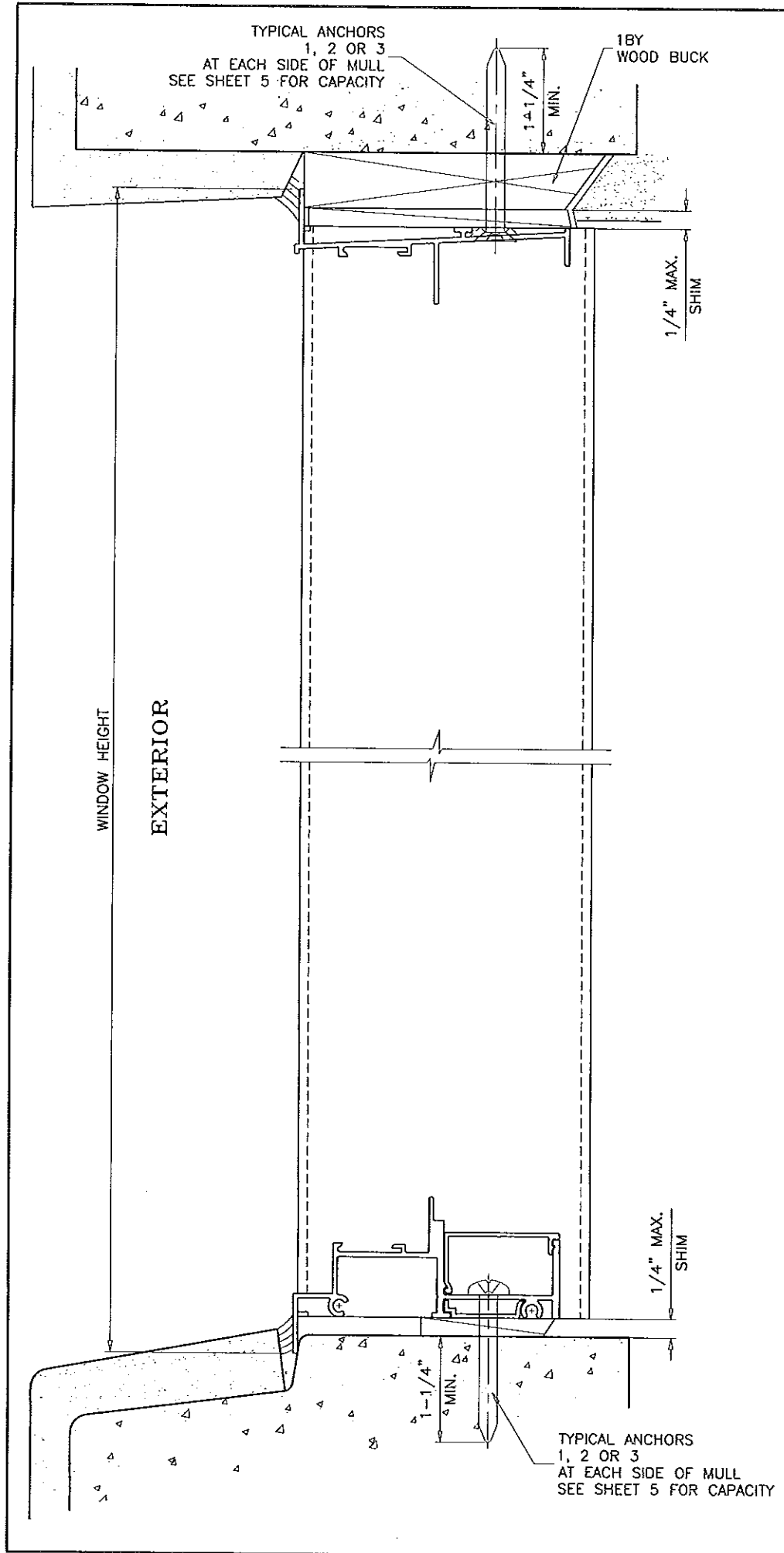
UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
 4101 N.W. 132ND STREET
 MIAMI, FL. 33054
 TEL (305) 681-2020 FAX (305) 681-2035

no	date	by	description
A	09.13.10		REV. PER BOCO COMMENTS
B	07.20.12		UPDATED TO 2010 FBC

date: 09-05-08
 scale: 1/2" = 1"
 dr. by: HAMID
 chk. by:

drawing no.
M08-04
 sheet 8 of 10



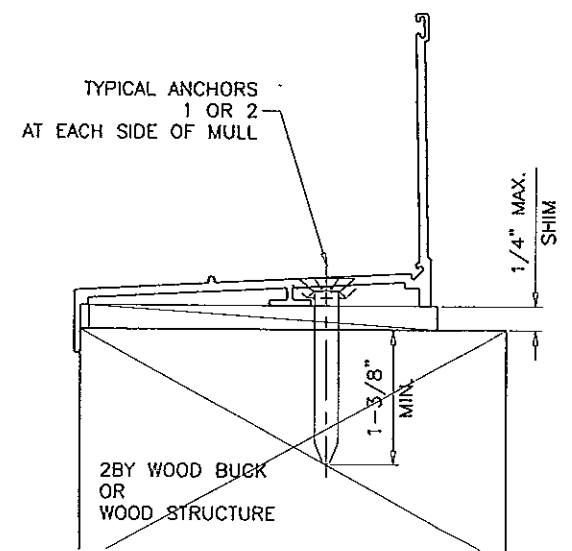
WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING
1/4" DIA. ULTRACON BY 'ELCO' ($F_u=177$ KSI, $F_y=155$ KSI)
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#14 SELF DRILLING SCREWS (GRADE 5 CRS)
 INTO METAL STRUCTURES
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 ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

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 INTO CONCRETE AND MASONRY = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.

CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3000$ PSI MIN.
 C-90 HOLLOW/FILLED BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.



PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 13-0206.09
 Expiration Date 10/13/2015
 By *[Signature]*
 Miami Dade Product Control

**TUBE MULLION
 SERIES 535 FRAMES**

Engr: JAVAD AHMAD
 CIVIL
 FLA. PE # 70592
 C.A.N. 3538
[Signature]
 SEP 26 2012

AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 1235 S.W. 87 AVE
 MIAMI, FLORIDA 33174
 TEL. (305) 264-8100 FAX. (305) 262-6978
 MULLION M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
 4101 N.W. 132ND STREET
 MIAMI, FL. 33054
 TEL. (305) 681-2020 FAX. (305) 681-2035

no	date	by	description
A	09.13.10		REV. PER BCCO COMMENTS
B	07.20.12		UPDATED TO 2010 FBC

date: 09-05-08

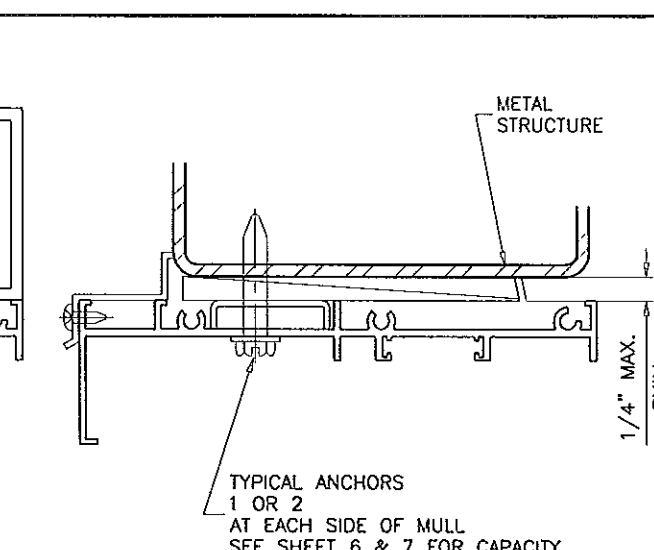
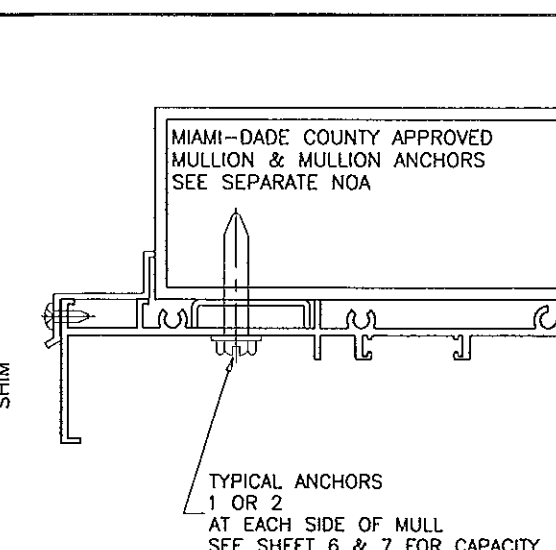
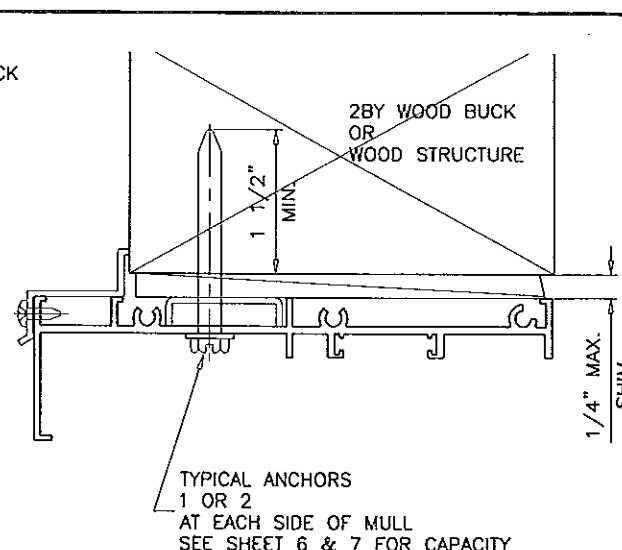
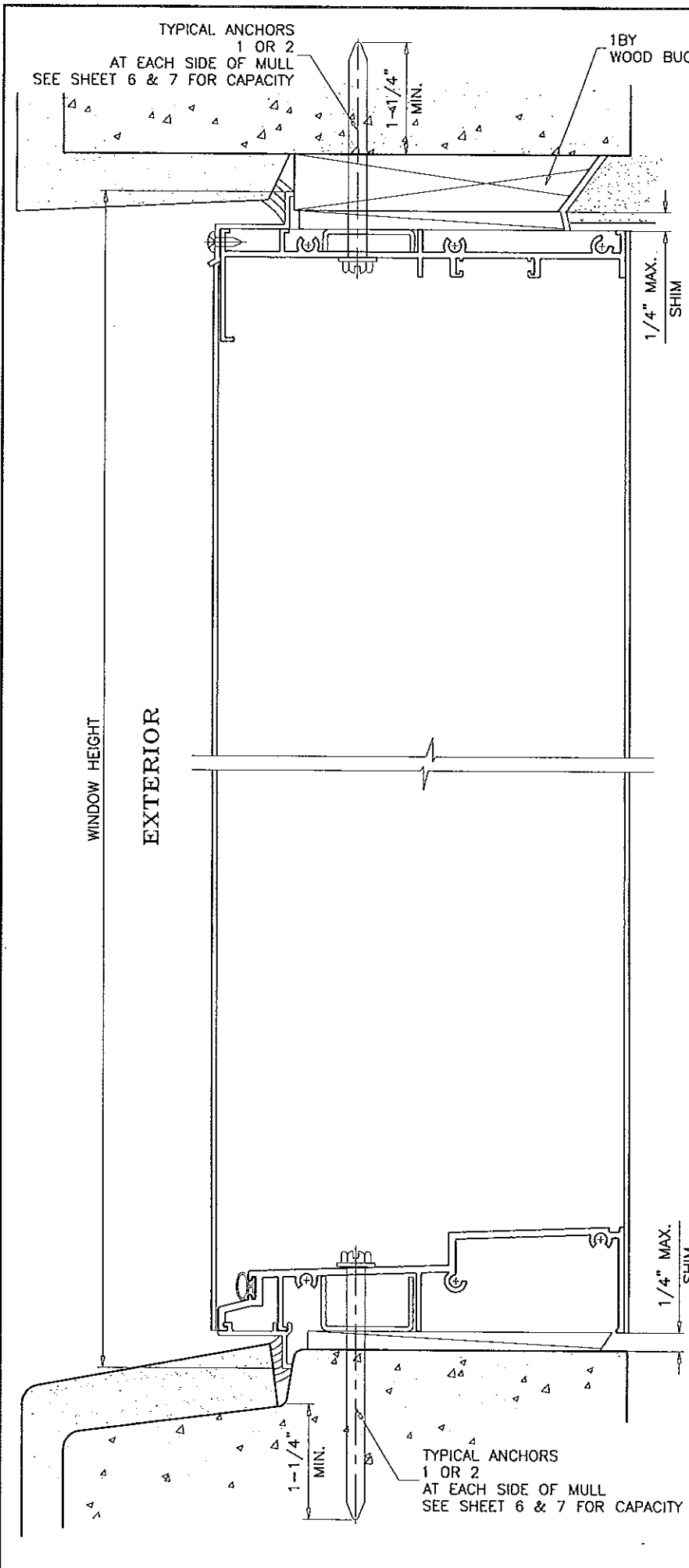
scale: 1/2" = 1"

dr. by: HAMID

chk. by:

drawing no.
M08-04

sheet 9 of 10



WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM
AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING
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TYPICAL EDGE DISTANCE
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CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 13-0206.09
Expiration Date 12/13/15
By *[Signature]*
Miami Dade Product Control

**CUSTOM MULLION
SERIES 540 FRAMES**

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

SEP 26 2012



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
MULLION M08-04/SAT

UNCLIPPED ALUM ZERO & TUBE MULLION

SOL-A-TROL ALUMINUM PRODUCTS
4101 N.W. 132ND STREET
MIAMI, FL. 33054
TEL. (305) 681-2020 FAX. (305) 681-2035

revisions:	no.	date	by	description
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date: 09-05-08
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chk. by:

drawing no.
M08-04
sheet 10 of 10